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The Fly Papers 4

For almost thirty years, *The Fly* has held a cherished place in the hearts and minds of genre film enthusiasts: so the decision to remake it was not surprising. Only its essential premise, however, would be retained. Under the direction of David Cronenberg, the story became one of a scientist whose genes are scrambled with those of a common housefly producing a mutant form that evolves incessantly into something neither human nor insect. Discussing the film and its manifold complexities are director David Cronenberg, special makeup creator Chris Walas, video effects supervisor Lee Wilson and others. *Article by Tim Lucas.*

Putting Big Trouble into Little China 30

For *Big Trouble in Little China*—a sprawling fantasy-adventure set in an imaginary world under a Chinatown—director John Carpenter needed a special effects facility that could respond to the demands of a script that called for a wide range of makeup and creature effects as well as precision opticals and animation. Rising to the task was Richard Edlund and his Boss Film Corporation who collectively produced a 2000-year-old evil magician, a flying fleshball covered with eyes, several monsters and spirits of indeterminate origin, plus a vast array of lightning effects and other illusions. *Article by Janine Pourroy.*

Building the Body Electric 50

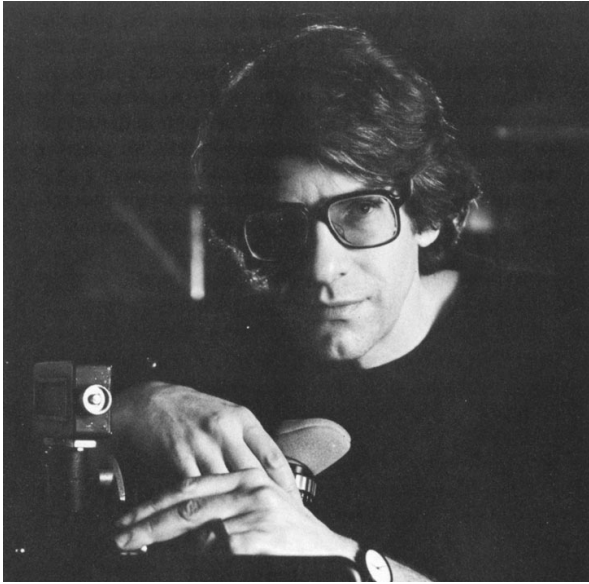
The *Short Circuit* script had everything—adventure, humor, warmth—and John Badham knew immediately that he wanted to direct it. All it needed for success was a very special lead player—a six-foot-tall robot with an engaging personality who could drive trucks, dance disco and chase butterflies. The task of producing this singular performer fell to robot construction supervisor Eric Allard, futurist designer Syd Mead, puppeteer Tony Urbano and physical effects coordinator Chuck Gaspar—all of whom discuss in detail the creation of a very unique Hollywood star. *Article by Jody Duncan Shay.*

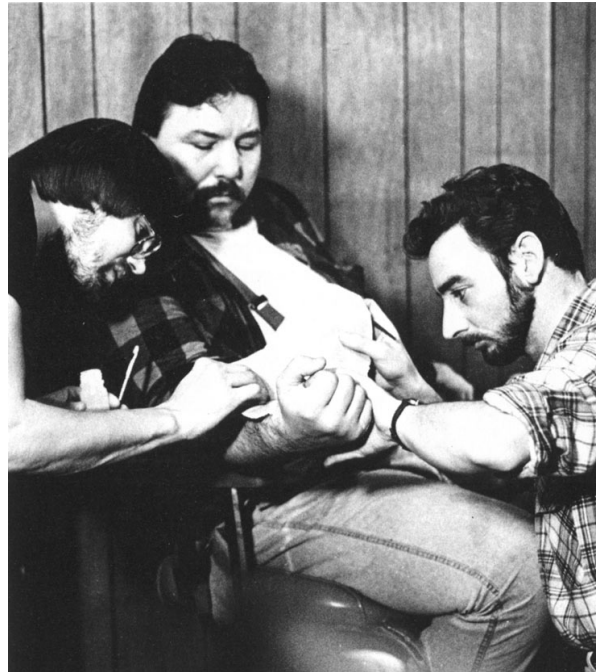
FRONT COVER—The frightening, yet pathetic mutant from *The Fly*.
A Nova robot prepares to fire its laser weapon in *Short Circuit*—BACK COVER.



The Fly Papers











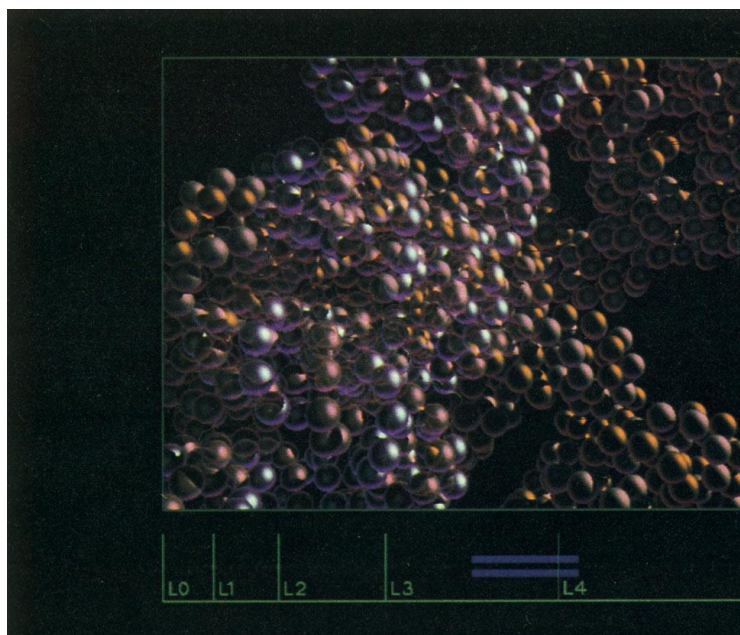
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When the Christmas holiday was declared, Chris Walas and company were not to be seen signing cards or stringing popcorn. "By the time I got back to California, it was madness. There were last-minute alterations on things that were pretty far along on the construction line, so that holiday was sheer work, seven days a week, to pull everything together. I think some of us got Christmas Day off." When cast and crew reassembled after the New Year, however, Walas and company were prepared for two-and-a-half months of shooting — mostly with Goldblum wearing various degrees of makeup, depending on the stage of his perverse evolution.

The Stage I makeup, as seen in the wrist-break scene, resembles a bad allergic rash and was accomplished by applying dabs of red, burgundy, yellow and blue makeup to discolor Goldblum's face, which was also dotted with tiny fly hairs. The condition worsens by Stage II when Brundle tries unsuccessfully to shave off the thick, bothersome hairs, and then bites off a fingernail, squirting fly goop onto the bathroom mirror. The Stage II makeup was supplemented by plastic warts and pimples, with the fly hairs — also shown growing from scratches on his back — made of nylon monofilament fishline, trimmed and tapered at the ends and given the illusion of translucence by tints of black ink.

For the fly goop effect, Dupuis made three thin, cuplike urethane fingertips from a cast of Goldblum's hand. These appliances, molded in two layers, included channel tubing that enabled two syringes to pump the liquid — a concoction of glycerine, zinc oxide, methycel thickener and yellow food coloring — through holes built into the fingertips below the false nails. The fingertips themselves were made of dental acrylic, colored with translucent paint and inserted — not glued — into precut grooves. The necessity of hiding the apparatus from the camera restricted the actor's movements, and the time-consuming nature of applying the tubing made it necessary to film the effect out of sequence. "It took a full day to film that scene," Dupuis recalled. "Those finger appliances were so fragile that they couldn't be kept on for very long — they would start disappearing after awhile because the glycerine ate up the foam. We shot the scenes out of sequence, so we went from the goo to the earlier part of biting the nail off, for which we cut off the tubing and blended down the edges of the appliances."

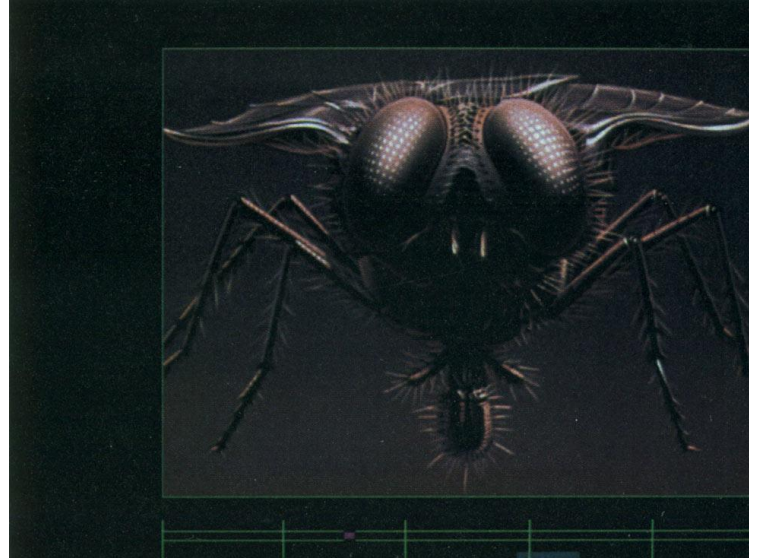
Stage III is first observed when Veronica is summoned by a very frightened Brundle after a four-week separation. For a startling scene in which one of Brundle's ears falls off, Dupuis had made a cast of Goldblum's ears: but after adding translucent

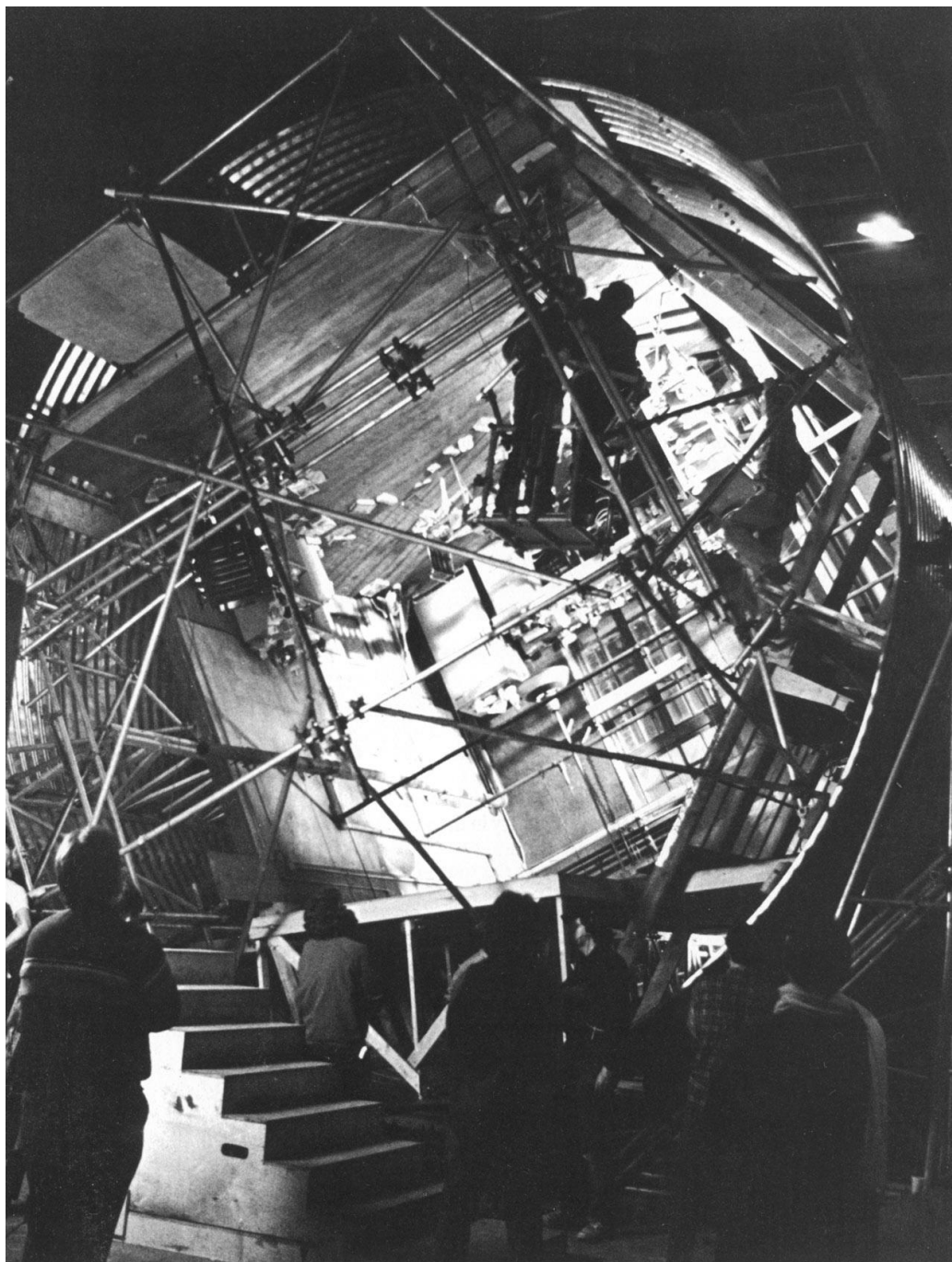


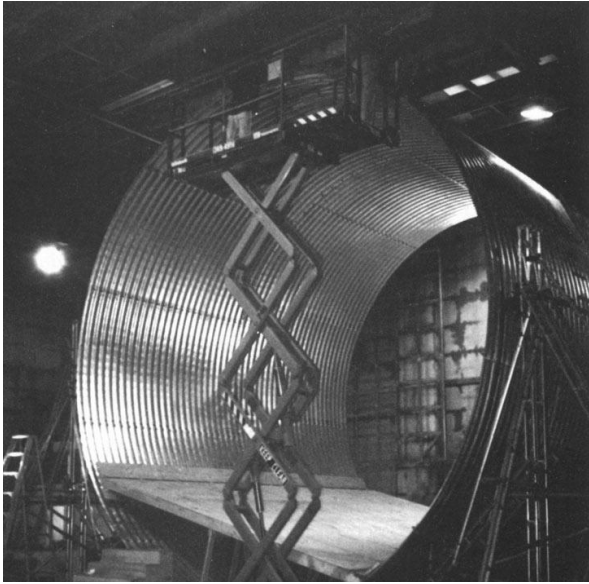
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being the change from Goldblum's own body dressed with appliances to the introduction of full-body suits. In October, Goldblum had had his entire body cast in a very awkward position, with arms and legs bent, his torso leaning forward, as well as having separate casts made of his head, teeth and ears. "We had the chance to see Jeff only a couple of times, which is much less than desirable," Walas lamented. "But we knew going into this that it was going to be one of 'those' shows, with a lot of hard work to be done very quickly."

A good deal of hit-and-miss experimentation was required to bring the last nonsuit Stage IV-A to life. This makeup stage was intended to bridge the piecemeal body makeups with the full-body suit. The first attempt had Goldblum wearing a prosthetic face and a Mike Smithson headpiece that made his head larger and bumpier, with nothing appendaged to his body except a 'hernia bulge' appliance. "Jeff has a very smooth, muscular body," Dupuis explained, "and the bulge was applied to a mobile area that caused the edges of the bulge to visibly wrinkle. The edges weren't blending in because we were using a flesh-and-lavender coloration that tended to wash out under the lights. David decided that we should give him new arms, so we made arms out of foam pieces and glued these onto a leotard he wore over his own arms. We added the same makeup, basically, with a more bruised color configuration of blues, reds and purples, which looked nice; but the arms made him look more like a freak than anything else. For the third try, we made him a new set of arms and put bulges on his back, distorted his body by gluing other pieces of foam onto his leotard and, on the left side of his pelvic area, the bulge." The IV-A head form was replaced with a Stage III appliance which covered the top of Goldblum's head and went around his ears, with Dupuis replacing its less-distorted face with that of the Stage IV makeup and blending the edges down.

Jonathan Horton semi-supervised the suit production in San Rafael — 'semi-supervised' because intense activity in the shop resulted in people constantly being pulled away from their assigned tasks and switching responsibilities as the timetable demanded. Harold Weed, Keith Edmire, Bill Stoneham, Mark Williams and Conrad Itchener joined Horton in sculpting the body suits, a collective effort that was not without its aesthetic gaffes. "A team of sculptors worked on the body suits because there was an incredible amount of pressure to get them together as soon as possible and because they had to be done in numerous pieces to move correctly," Walas recalled. "I think we had a week-and-a-half to sculpt, mold and go through every stage. We were limiting ourselves to half a day to sculpt a forearm or the neckpiece. When we actually put the suit together, we began to notice subtle differences in sculpting style. Some pieces worked together great and others were just *different*. These pieces had to be redressed and recolored to adjust the differ-

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that scene in. I think people love the baboon and don't forgive Brundle for teleporting and killing it. The preview audience read the scene as Brundle being cruel to animals. It's a schizophrenic turning point, but that doesn't redeem him in the eyes of most people. The baboon becomes sort of a surrogate mistress, a confidant. But in terms of the anguish it caused the audience, the scene struck many people as being gratuitous."

A similar, earlier makeup scene involved the teleportation of the baboon's 'brother' whose genetic structure is randomly reinterpreted by Brundle's computer and reintegrated inside-out. The inside-out monkey — a mass of convulsing latex, fur and padding — was given cable-controlled neck and jaw movement by Jim Isaac, who operated the model from beneath the raised laboratory set through openings in the pod floor. Blood was pumped through a pressure pot system actuated by a series of solenoids which combined the blood solution with air to give a pulsing and splattering effect.

The monkey-cat scene segued into another deleted sequence as the revolted Brundlefly scales the wall of his lab and scrambles through the skylight. He perches on the rooftop in the moonlight and shouts "No!" as if trying to hold back the new insect sensibilities engulfing him. He feels a sudden visceral pain and slips over the edge of the roof, sliding in adhesive jumps and starts down the side of his six-story warehouse building. Slamming onto a corrugated iron awning, his body convulses and he stares in disgust as the 'hernia bulge' on his side splits open revealing a crablike, undeveloped fly's leg. "No, I won't," Brundlefly insists and, bending forward in a chillingly inhuman demonstration of thoracic flexibility, amputates the twitching appendage with his teeth. He spits it out. It slides off the roof and lands in a mud puddle in the alley where it twitches momentarily and then stops.

For this passage, Carol Spier designed an impressive three-story facade of the warehouse wall — erected on stage at a 26-degree angle. After Goldblum slipped and grabbed and climbed down the first three stories, the wall was redressed with lamps, drainpipes and occasional atmosphere to suggest the next three. The illusion was further assisted by building an adjoining apartment building into the facade's visible corner, each window of which was carefully dressed to imply a different tenant's personality with venetian blinds, potted plants and other characteristic furnishings. Mark Irwin's camera was mounted on one angle of a triangular wooden block that geometrically matched the slant of the wall — giving it a precise up-and-down illusion — while a crane cabled to the side of the facade moved the camera apace with the actor's movements. The area of the wall which Goldblum was to slide upon was lubricated — as was his suit — with K-Y jelly to minimize the surface's abrasion of the latex. "The construction crew was absolutely great," Walas enthused. "They understood problems and they tried to fix them.

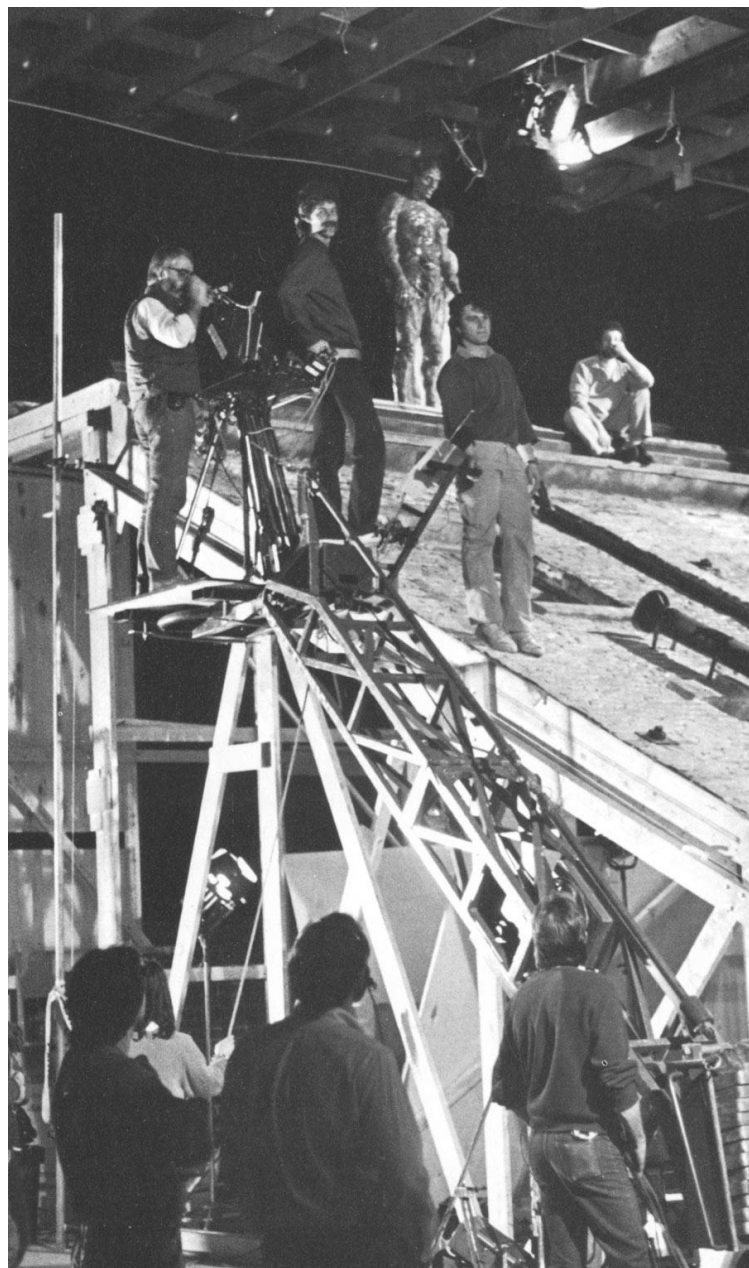
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world: 'Forget it!'" Walas exclaimed. "They've been overdone. There *is* a transformation scene in *The Fly*, but we consciously tried to avoid the standard cliché of stretching rubber by trying something new. One of my concerns — which I expressed to David early on — was not wanting Brundle's final transformation to be a *Howling*-style transformation in which the story stops to admire the effects, because that's not what this film is about. In many respects, *The Fly* is a special effects movie, but first and foremost it's a story of a person and what happens to him."

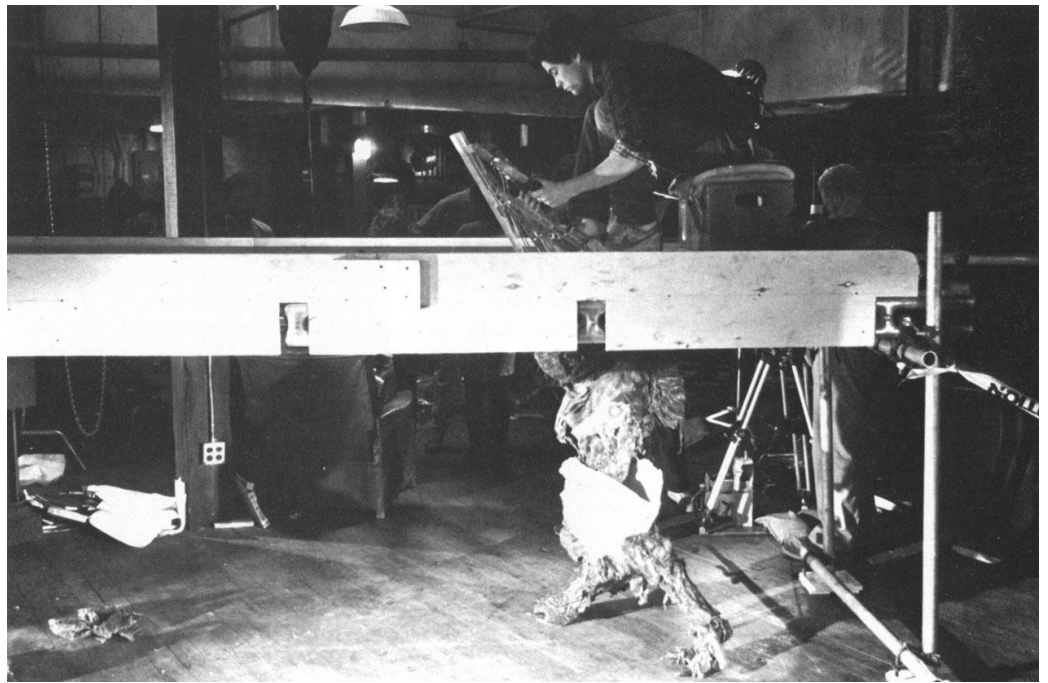
Stage V of Brundle's transformation, which bridges Goldblum's final scene to a series of volatile CWI animatronics inserts, was accommodated by several puppetized models which performed a variety of functions. The first of these, a 'flex-o-jaw' head, was all but abridged from the film's final cut and can be seen only briefly during the shots in which Brundle opens his mouth to an inhumanly wide degree and disgorges his corrosive vomit-drop on Stathis Borans' fist and ankle.

Chris Walas and crew unanimously cited Borans' dissolving fist as their single most difficult effect on the show. "Originally," said Walas, "it was a hand with fingers that fell off as it began its bubbling, smoking action. That wasn't acceptable because it wasn't controllable enough. Then we went to a more mechanical approach, something along the lines of Stripe's smoking skeleton in *Gremlins*, which was controlled from beneath with the interior collapsing into itself. But that wasn't what David wanted to see. Then we went to a third approach, which was a modification of the technique I had used for the melting heads in *Raiders of the Lost Ark*, which was a gelatin paste with some different materials added so the look didn't appear too similar." Walas' third attempt involved the preparation of a wax hand — built up over plastic skeleton pieces, veinlike strings and acrylic fingernails — which was photographed at four to six frames per second as heat was applied. It was generally agreed that this was the best solution, though it still lacked something crucial that no one had considered — movement. Borans would be feeling pain; he would be trying to free his wrist from Brundle's grip. The shot was later taken by Cronenberg to Film Opticals — a Toronto-based lab — where a matte was placed around the dissolving fist, which was made to move optically against a black background. The dropped-in background was provided by a still frame of Brundle's lab, taken from the last frames of the take in which Borans was knocked below frame by Brundlefly's pounce from the skylight.

The dissolving ankle effect was supervised by Harold Weed. The fully mechanical, pre-separated ankle was part of a prop leg slipped inside John Getz' trouser leg, a hole in which allowed the actor's own leg to exit the trousers and slip through an opening in the floor. Everything from the knee down was false. Beneath the stage, operators controlled the movements of the













of stuff that the production sent us from the set; so we had some continuity going on. I think almost everyone in the shop had something to do with it, but the bits and pieces fell down to Jonathan and me. The whole thing was thrown together in about two weeks, from Chris handing us the maquette to us packing it into the box."

The Brundlebooth was given the illusion of crawling across the floor on its front legs by a crew of nine puppeteers secreted below the raised laboratory set. The creature's head, hands, elbows and trunk were attached to rods lowered through groove tracks cut into the floor. The tracks were lubricated with cornstarch and hidden by a carpet of smoke issuing from the opened pod. On called cues, the puppeteers handling the left and right arm movements alternated in a forward progression while others handled the cable-controlled facial performance.

Perhaps the most astonishing aspect of the Space Bug and Brundlebooth puppets is their mechanical ability to perpetuate the moving performance begun by Jeff Goldblum. The entire CWI crew saluted Goldblum's acting and claimed that without his sensitivity to serve as an illustration the puppets might not have had such dramatic capability built into them. It's a testament to the mechanics behind the puppets' eyelids that their opaque insect eyes were capable of registering any emotion at all, but on screen they convey a heart-wrenching, unfocused, almost infantile vulnerability. Both puppets used identical eyes, made of styrene hemispheres with several layers of paint, gloss coatings and metallic dusting powders.

As it stands, *The Fly* concludes with Veronica falling grievously to her knees over the shattered remains of the Brundlebooth. As with *Videodrome*—the script of which ended with a perverse 'afterlife' orgy which was never filmed—and *The Dead Zone* for which a final scene between Herbert Lom and Brooke Adams was filmed but deleted, *The Fly* has also been relieved of a coda sequence. In a surreal dream of Veronica's, the camera moves slowly along a bare branch to its tip where it connects to a translucent amber chrysalis. The chrysalis begins to sway with inner movement and hatches, revealing a human infant wrapped in a pair of graceful, pale blue butterfly wings. The baby unfolds its wings, opens its eyes and flies out of frame. It then lights on the branch, stretches its wings to full size and flies off toward a distant light source.

Under Jon Berg's supervision, the dream was filmed in two stop-motion shots (covering 1270 frames) during postproduction at San Francisco's Colossal Pictures. Director of photography for the sequence was Michael Owens and the camera was motion controlled by computer operator John Gazdik. The in-

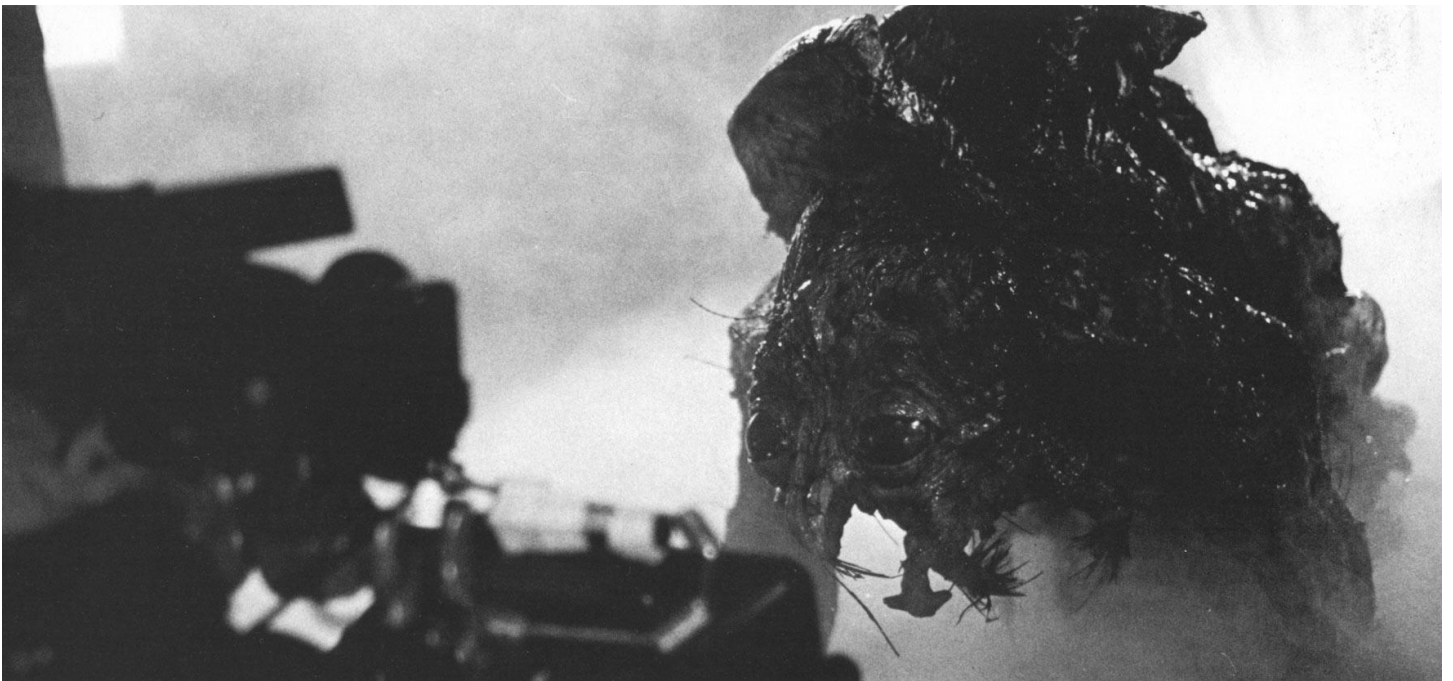
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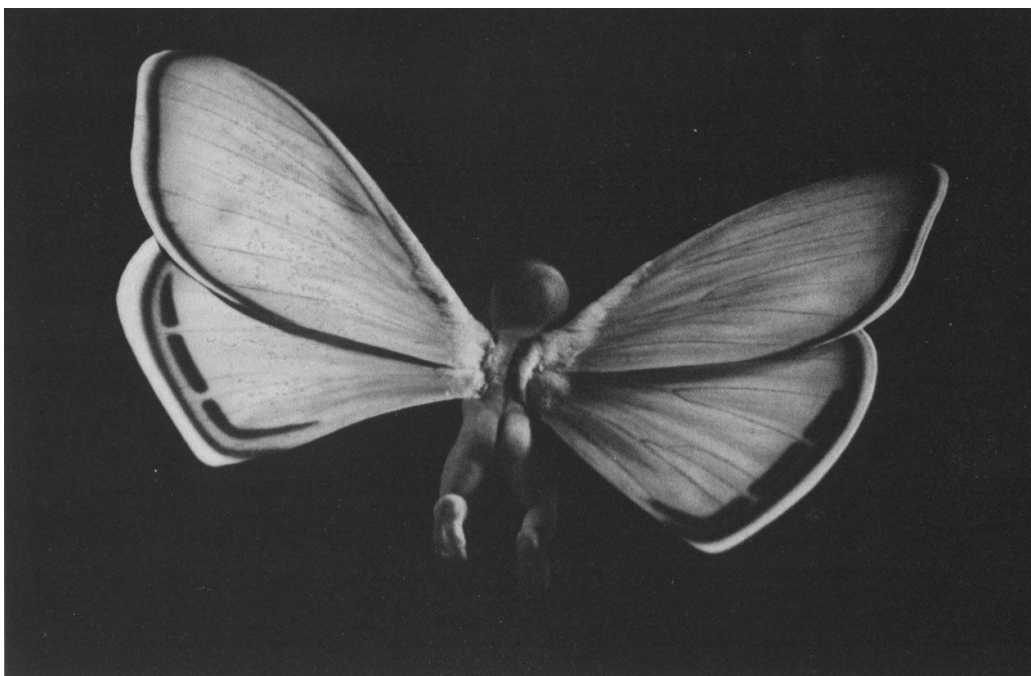


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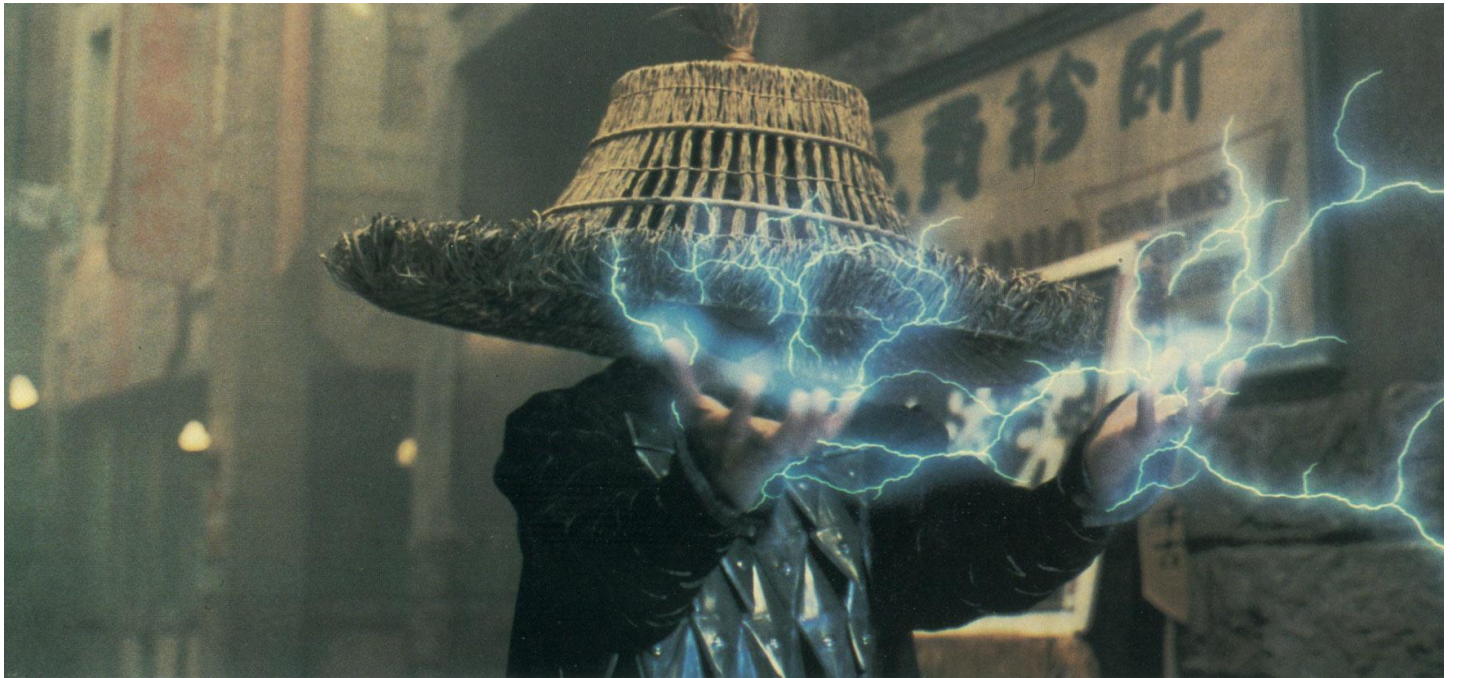
**PUTTING
BIG TROUBLE
INTO
LITTLE CHINA**

normal old-aged person; he's a demon that has kept himself alive for 2000 years by way of black magic. His eyes still needed to have intensity even though his face was shriveled. It also added credibility to the makeup because it was apparent that underneath all the latex, it was *still* James Hong."

Two thousand-year-old demon or not, Lo Pan remains a youthful spirit seeking solid flesh; and until he achieves it, he must rely on his henchmen — a unique assortment of unearthly characters — to do his bidding and protect his labyrinthine, underground kingdom. Chief among Lo Pan's protectors are the Masters of Death, met earlier in the alley fight, also known as the Storms — aptly named Lightning, Thunder and Rain. The Storms literally descend on the scene in tandem — a green, glowing ball of energy wreaking havoc with the ceiling of a tenement where Jack Burton and Wang Chi have *almost* caught up with Miao Yin. Unfortunately, however, the hapless girl is snatched from our heroes' near-grasp by Lightning, who whisks her away via — what else? — a lightning bolt, up and out into the night. The initial effect of the trio entering through the ceiling was achieved by veteran floor effects supervisor Joseph Unsinn and crew. An explosion was rigged to rip apart the roof section, with the actors then flown in and out of the scene by wire lines. The challenging physical effect was enhanced with carefully planned interactive lighting, taking into consideration the degrees, direction and color of the light — and keeping in mind that there was ultimately going to be animation over it all. "We also knew that animation was going to be moving in relation to Lightning's moves at the time," commented George Jenson, "as well as reflecting his personality. For instance, for the scene where the script simply described, 'He takes a lightning bolt and rides it like a fireman's pole,' we would go beyond that and really give the stage direction personality, make it work with the scene. When Lightning rides that lightning bolt, it is full of all the energy that *he's* giving it. As he lets go and walks away, it stays there and becomes an inert kind of lightning. When he returns and grabs the bolt, his personality and strength bring it back to life. In other scenes, for example if Lightning were angry, his lightning had to reflect that. If he was trying to shoot someone with it, then it had to have a definite strength — as opposed to when he was walking down the hall and showing off for the girls by creating lightning on his fingertips."

"In the scene where Lightning lowers into the room on a lightning bolt," elaborated Garry Waller, "they first rotoscoped him lowering and then went back and animated the bolt to his action so that it matched. A lot of life was added to the bolt in animation, too. Creating the lightning and the abundance of extraneous electricity actually constituted the bulk of our work. Three animators — Mauro Maressa, Peggy Regan and Glen





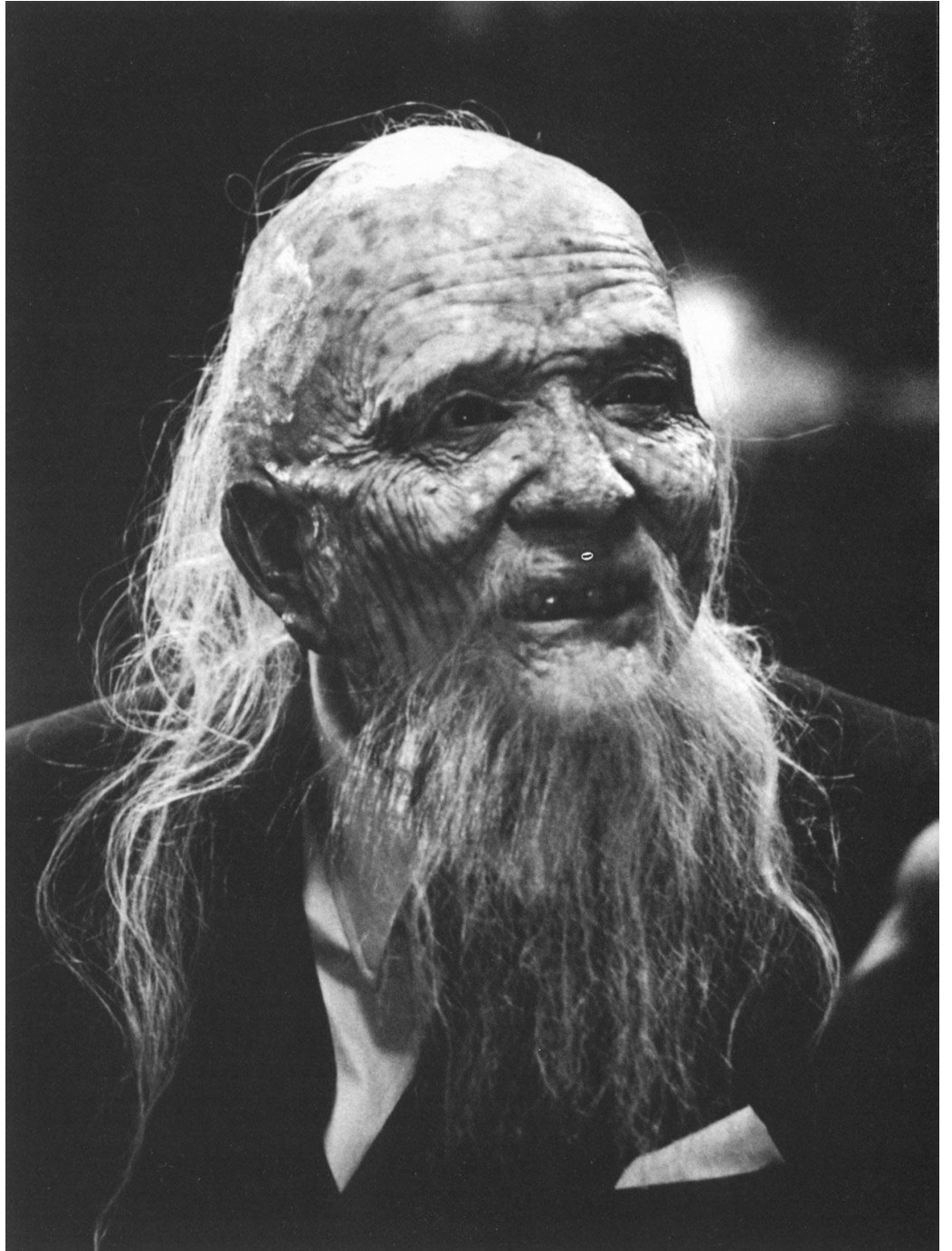


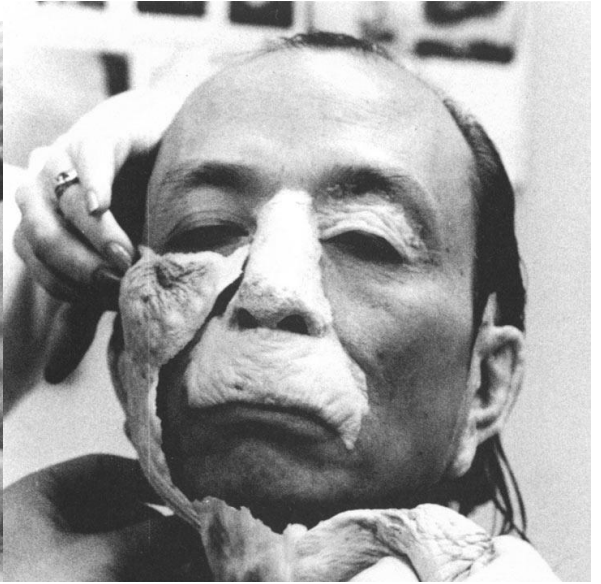
phy would be an interesting and fun way for the animators to use their own creativity. We had to keep it pretty toned down, though. The first tests we did turned out too stiff and cartoony, and John Carpenter wanted a more electric look. The lightning flashes come on screen and linger only a beat, but the calligraphy influence is in there although it's very subtle. But I think with its being in so many scenes throughout the film, people start to see and feel its presence."

The lightning and electricity demanded by *Big Trouble in Little China* provided Boss Film with the unique opportunity — and time-consuming challenge — to once again pioneer special effects innovation. "Whenever we get involved with special effects for a picture, it's very important to us to add something that hasn't been seen before," commented Richard Edlund. "We never want to have the reputation for pulling shots out of stock from one movie and reusing them for another simply because we can easily repeat what we've already done. Not only would we get bored by that approach, but we feel it's our responsibility to any given film we're involved with to develop a special 'look' for that film that makes it stand out as something unique. In the case of *Big Trouble*, we really showcased the animation. Garry Waller even decided to use toplit art instead of the more typical bottomlit. We've done a lot of bottomlit animation with diffusion filters and so on; and that's generally the way it's done, because it's a little easier and perhaps a little cheaper to do it that way. But the final outcome is that you lose a lot of subtleties and texture by depending solely on artificial means to develop glows. We wound up *air-brushing* the glow into the lightning, which meant that each piece of art had to be done individually but which also gave the lightning a lot of nice crackle and glow — it truly looked electrical — while at the same time it had a softness and reality to it that made it genuinely look like lightning."

Waller began by doing initial tests for the lightning in black-and-white, and from that point transformed them into color *within* the animation department — a departure from the routine method for animating electricity. "It's traditional to take a black-and-white bolt and a penciled bolt on white paper, shoot it on black-and-white film and then give it to optical and let *them* diffuse, color and composite it into the scene. This time we did something different. We inked the lightning with white ink on the cel against black, diffused it and then put in an airbrush pass with another color. That way, we actually have a three-toned color to it. We also made the hotter parts of the bolt and the bolts that are closer to camera seem different. The hotter or closer bolts are brighter; and as they recede or go off into the distance, we forced the depth with a cooler color. At the front-most position, it's a bluish, bright-white and eventually gradates to a green as it cools off."

During the scene where the gangs, the minions, the lightning whose effects are enhanced with airbrushing and enhanced with airbrushing, the lightning effects are enhanced with airbrushing and enhanced with airbrushing.







how we are going to shoot it — because when you design something, you've got to design it so it can be shot. And one of the problems in floating an object is first deciding *how* to float it and then how to get rid of the devices you use to float it. If it's just sitting on a pole, for instance, and very subtly moving around, you don't want to take a chance on picking up a breathing rotoscope line. We also take into consideration such factors as frontlight and backlight mattes or density mattes, which really don't work out well and still end up requiring a lot of rotoscope work. So, in the case of *Big Trouble's* flying eye, I figured that if we were to make a little donut-like bluescreen, the eye could be mounted right next to the screen. It seemed reasonable that if the eye had a hole in the back, the guys could then reach in to operate it yet it could still be surrounded by bluescreen material. Thaine Morris took care of the screen itself — he basically took a piece of blue screen, cut a hole in it and rigged it up so that the flying eye was mounted on a rod that went *through* a thirteen-inch hole in the screen. Then Bill Neil set the camera up in such a way that it 'floated' — which made the *eye* appear to be floating."

Ultimately, two twenty-four-inch flying eyes were made — to accommodate shots from both front and rear perspectives — and later reduced optically to the appropriate medicine ball specifications. "Once we knew there were going to be shots from the back — with all the problems we had already — it seemed obvious that there was no way we could make one full sphere capable of doing everything," said Johnson. "We tried to do as much direct rod operation as we could because the more direct the mechanism, the better. For example, the cheeks were actually on big fiberglass pieces that were operated straight out the back. For a pivot point we had a large plexiglass plate coming out at the back of the blue screen that we ran all the rods through. That way, the puppeteers could see through it and see what they were actually doing, as well as watch the monitor. It still took about twenty-four puppeteers, but nobody had to do any roto."

The flying eye's cheeks were capable of movement, as were several of its 'major' eyes. "It had two large mechanized eyes in the front that were really its major eyes for focus. Actually, they were the most highly mechanized function we did. They moved from side to side, up and down and any combination in between. They could roll, bug out, pull in and could also be set to operate independently. For instance, there's one shot where the flying eye gets stabbed in the forehead and its eyes cross and look right up at the knife. It also had to breathe, so we installed a system of bladders towards the bottom that could inflate and deflate. We put several other bladders in random places that just kept the skin bubbling a little bit — really subtly. We made a lot of the lesser eyes workable, but some we







Designed by George Jenson and Screaming Mad George, the flying eye was rendered first in clay by Jim Kagel. To accommodate the mechanics necessary to articulate its facial features — which included thirty working eyes — the floating sentry was constructed at twice its desired size. / The labor-intensive task of rotoscoping away support rods and actuating cables was eliminated entirely by positioning the flying eye in front of a small bluescreen with a hole cut into it. This simple innovation allowed cables to be fed out the back side of the eye and through the screen to a team of off-camera operators. Movement through the frame was achieved by floating the camera rather than the eye itself. / Hit by gunfire, the flying eye drops to the ground and licks its wounds — a scene requiring both a puppet operator beneath the elevated set and several others concealed behind. / An obscene-looking tongue

and projects a warrior as well."

The warrior sequence was choreographed with live performers and photographed by Bill Neil. "George Jenson did the original conceptual artwork for the sequence to give John Carpenter an idea of what it might look like. It was also helpful for everyone at Boss because it provided a common basis of understanding. Thaine Morris and his stage crew then set out to realize that on film. We went through a variety of tests and experiments until we got a look that started to play. We used some special in-camera techniques to shoot the scene. First of all, the stage was heavily backlit and smoked to create light shards that were later enhanced by animation. We diffused the image somewhat with strategically-placed globs of vaseline in front of the lens to soften the image and make it more dreamlike. Then, to give the figures a lack of grounding — because the warriors were supposed to be doing battle in midair — we had smoke flowing over the tabletop they were actually performing on. To get the shards we wanted, the backlighting was just tremendous. We wound up using xenon projector arcs — just like the ones you'd find in the screening room at a theater — mounted on gimbals that tracked behind the characters. As the actors moved in and out in combat, we kept moving these huge arcs around trying always to keep the actors *between* the lens and the lamps. Thus if the actor moved two feet, the arc lamp had to move five feet. And it was quite a job to move those heavy lights around at performance level following what basically was dancelike movement. The lamp houses were hung in huge yokes. Thaine basically took the yokes off a Mole Richardson 10K, and made plates for the projector lamps and hung them in the yokes. We then put it on a boom arm so an operator was able to move this whole configuration around — it had a sort of neutral buoyancy. We could raise it up and swing in from side to side. Also, in front of that, there was a rotating color wedge that gave rotating color shards, which we counter-rotated to create the impression of conflict. We shot quite a bit of footage for the sequence, and there were enough good pieces to make the cut. The shoot really didn't seem all that impressive and I was a little nervous going in. But the film came out looking much better than I expected and everyone seemed happy with it."

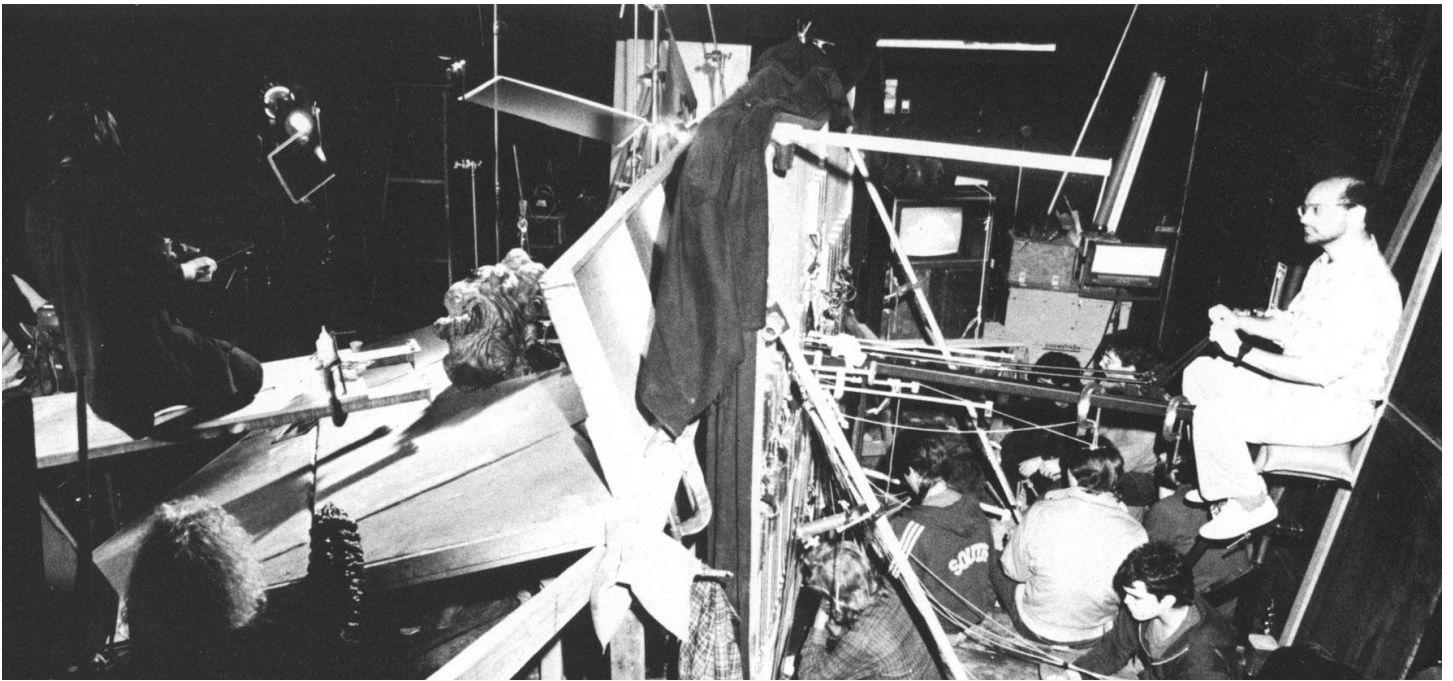
The warrior sequence also called for painstaking effort on the part of the rotoscope department. "The two warriors began their action by rising up from a crouched position and then doing battle," explained rotoscope supervisor Annick Therrien. "And because they were going to be matted into the composite so they appeared to be in midair, each of them had to be rotoscoped going through that action. We had to outline en-

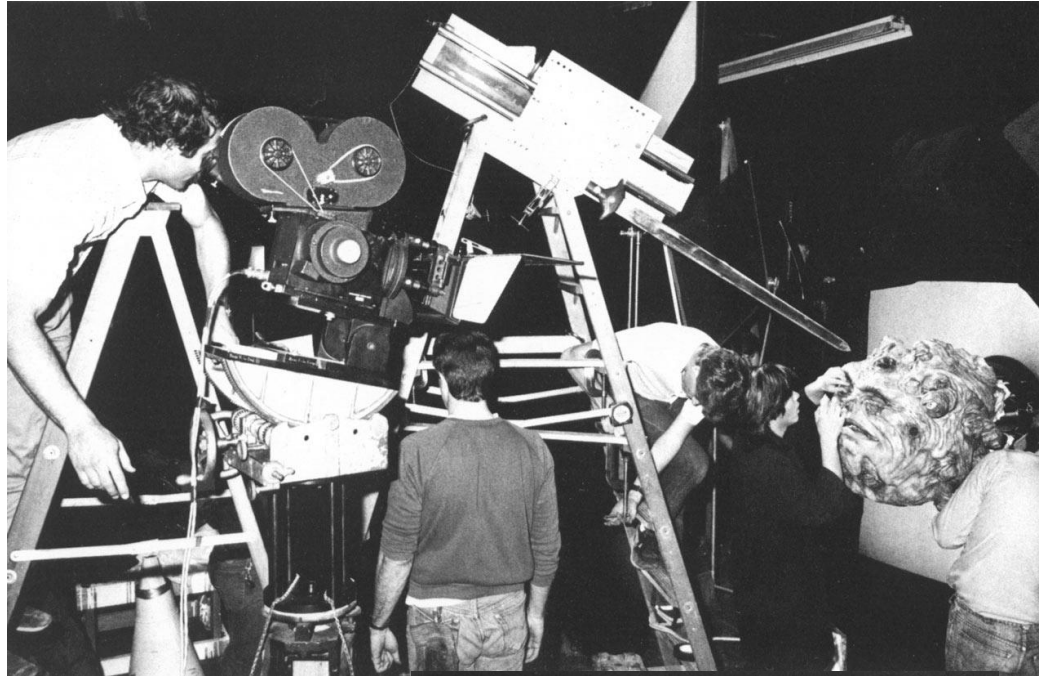


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figured that was close enough. I wanted to be sure we had something to retake with in case the gate jumped or some other disaster fell — so we never did break it.

"Because the idea of Thunder expanding is absurd to begin with, it seemed one of the few things we could really have fun with, find a lot of humor in — especially since the script stressed that it was supposed to be non-gory. Since he expands and keeps on expanding, you think of him as a balloon. Ultimately he gets so large, he explodes. In that scene, you see a lot of people running out of the room and as they run out, you also see all these 'Thunder parts' fly out. I came up with a couple of funny ideas for that one. I wanted to make a really thin skin on his head, put a big balloon inside, inflate it a lot and then just let it go — have it fly around the room like balloons do when they're released. I thought it would have been great to see his head whizzing around. Well, John liked the idea but it just didn't work out. We couldn't make a light-enough head and the effect started getting complicated with wires and so on. The other thing I thought of was having the guts and dismembered parts that go by camera in party balloon colors. So we made all these latex Hot-Melt pieces in brilliant pinks, reds, blues and greens, and I went to John and said, 'I have another idea, but you're probably going to think it's ridiculous.' He said: 'Ridiculous? Are you kidding? Try it on me!' So I explained the idea and dumped all the colored latex pieces on the ground for him to see. He looked at them for a minute, then turned to me and said, 'You're right, that's ridiculous.' We ended up making Thunder's parts a little more pastel."

With two of the Storms down and one to go, Lightning hounds our heroes as the sole surviving fury, blasting whatever floors and ceilings stand in his way. Finally, a bolt aimed at Egg Shen backfires when the old man raises a reflective fan as a shield, causing the electricity to ricochet and zap Lightning instead. Out of big trouble at last, Wang and Miao Yin are happily united — Jack and Gracie are not — and all seems to end well for the entire company, at least for the time being.

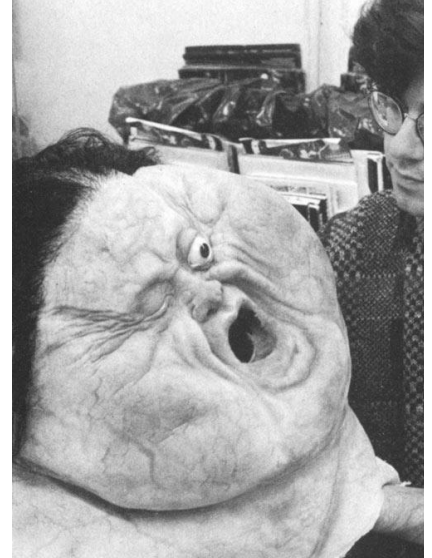
In a unique way, the fast-paced, nonstop action of the *Big Trouble* storyline mirrored the fast-paced, nonstop production schedule imposed on the \$19 million film — which was released almost a year to date from the first time John Carpenter read the screenplay. "Whether it's big budget or low budget, it's always hard to make a film," Carpenter concluded. "It's all the same. On low budget movies, when you have little money, you often have to stretch things in order to cover your bases and make sure you have a film. You would think that with a big budget film you would have all kinds of luxuries. Not so. It's

Outraged by Lo Pan's death, Thunder's previously-human form swells up to zeppelin proportions and then explodes. / Steve Johnson tests the eye mechanism built into the headpiece of the inflatable Thunder. / The suit itself was made of spandex and equipped with strategically placed weather balloons and bladders fed by compressed air through hoses in the back. / John Carpenter examines the

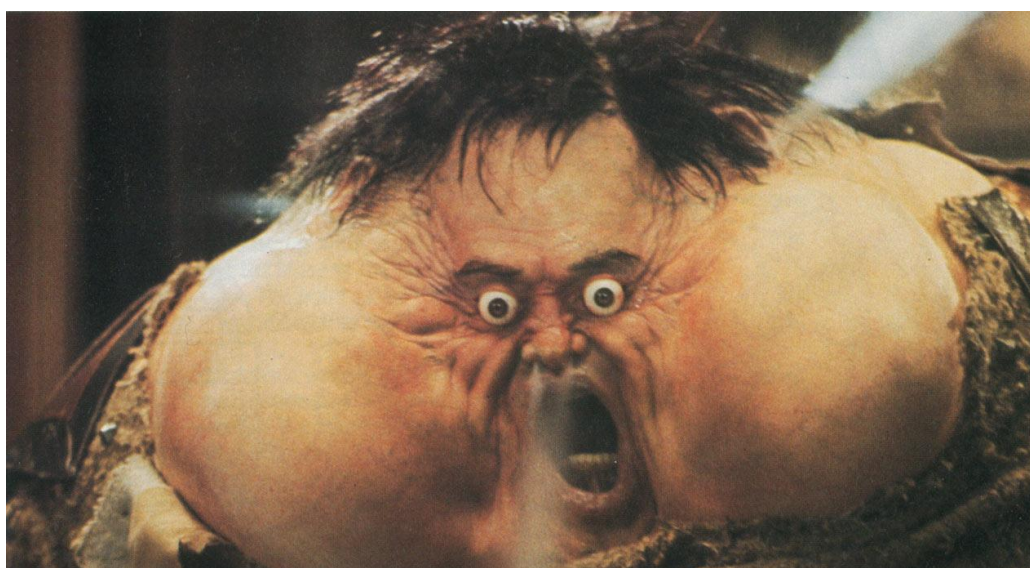


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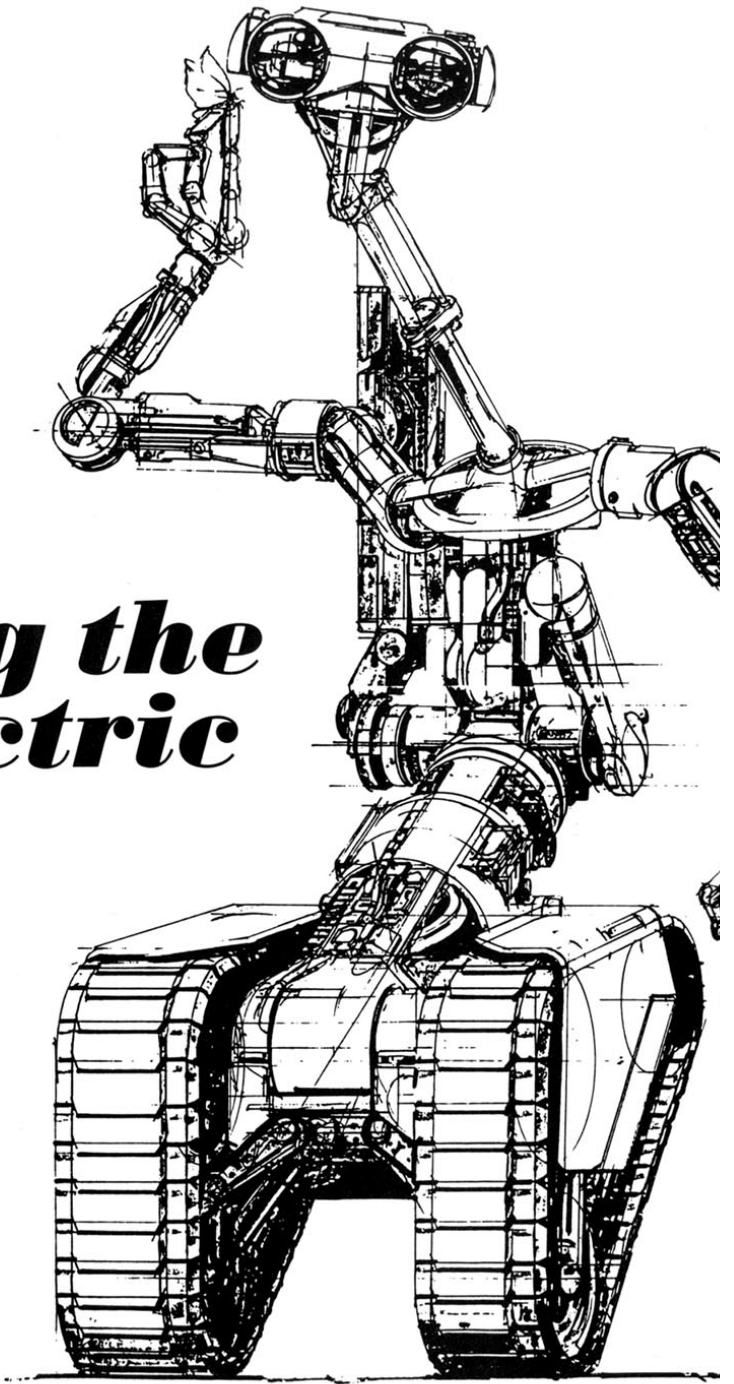
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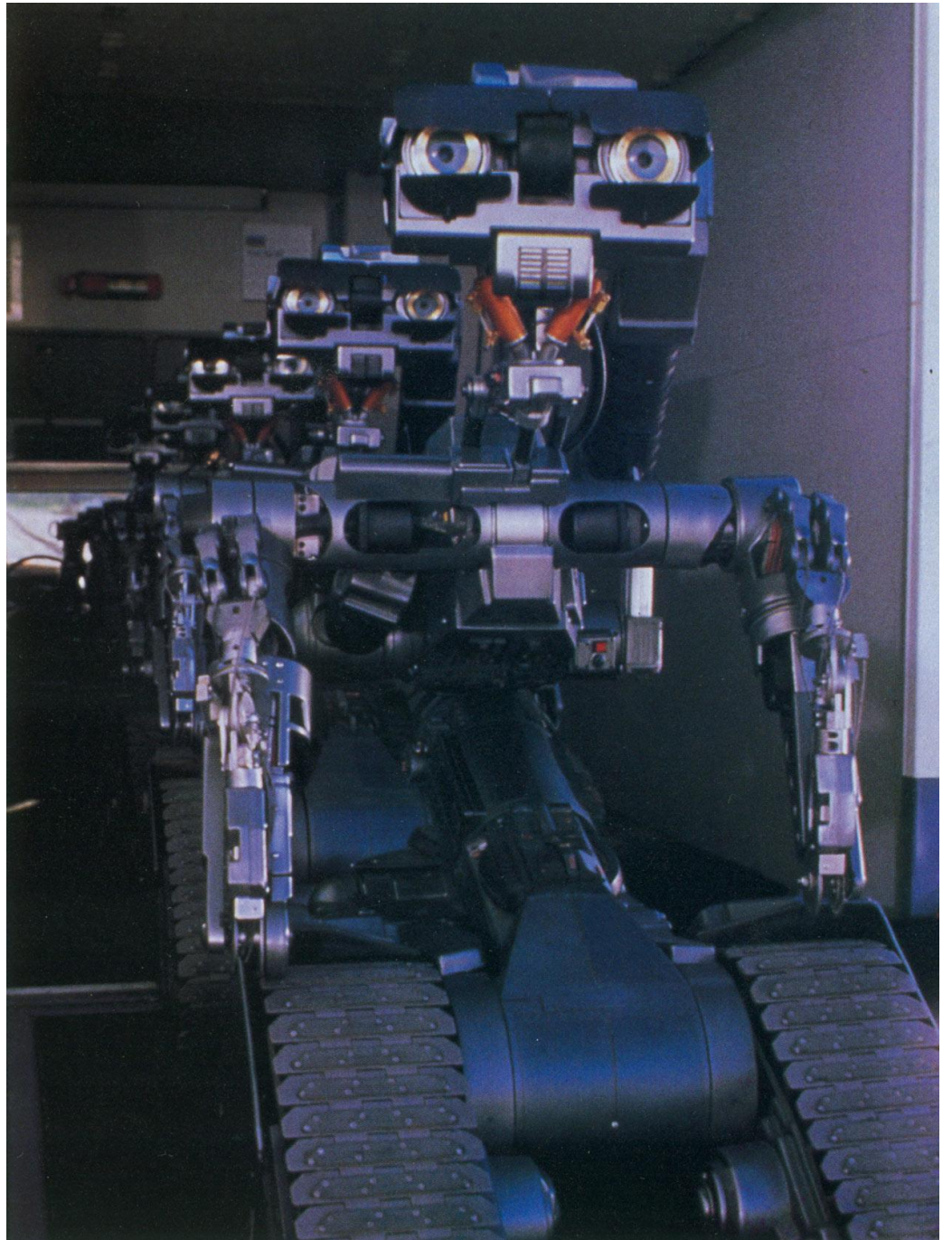




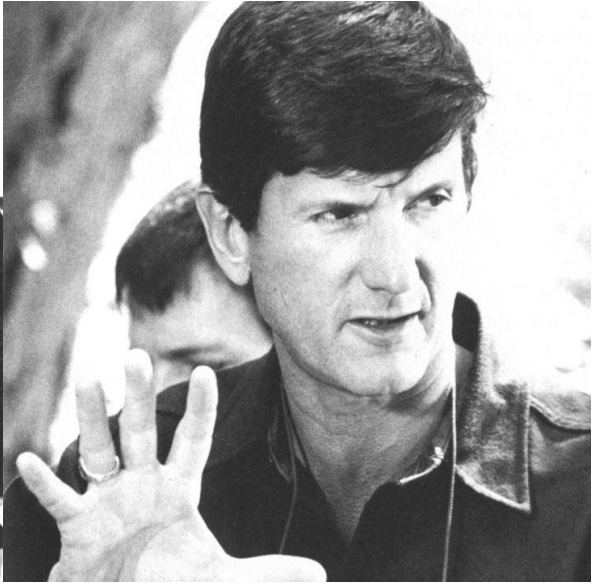


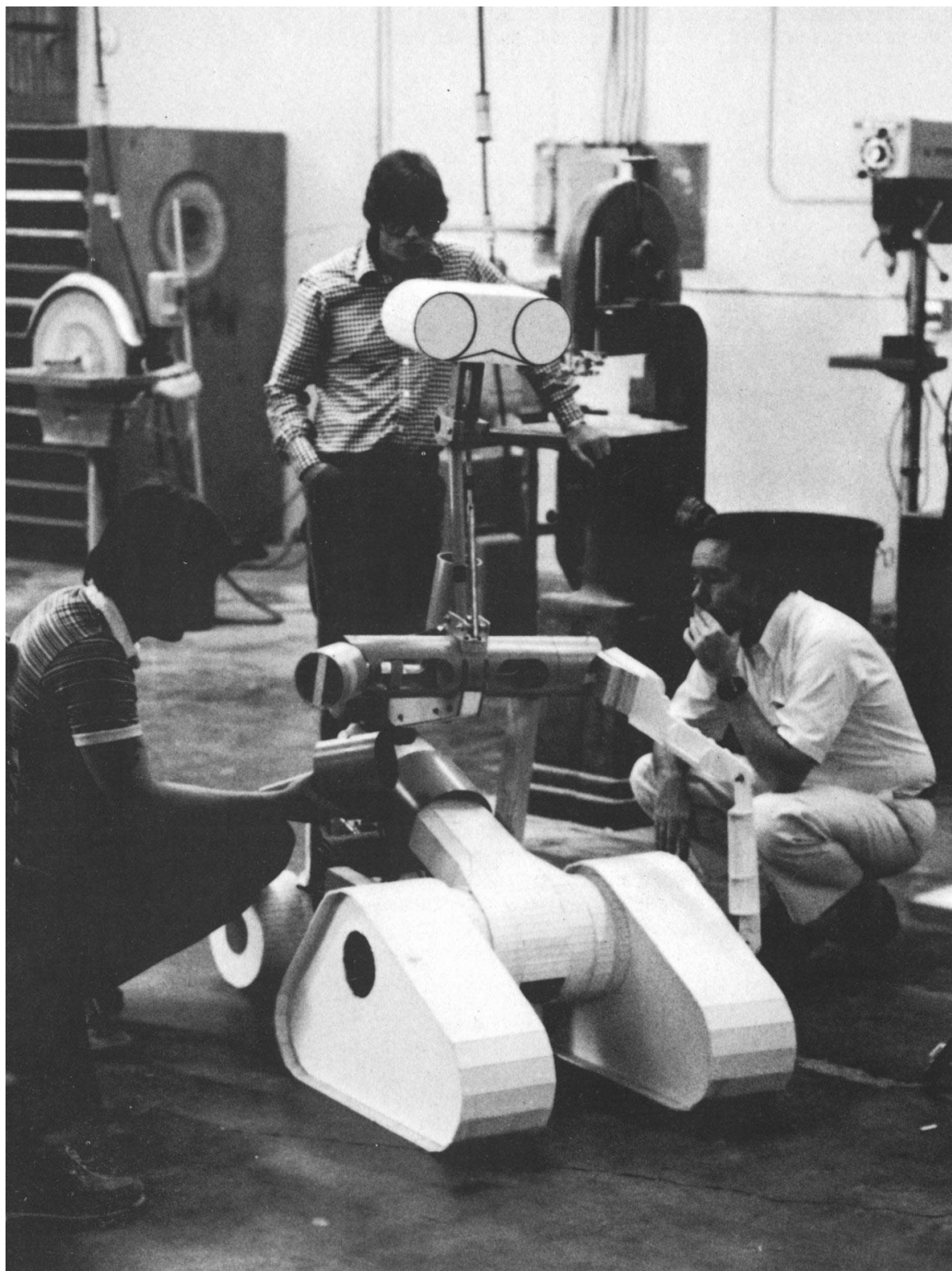
***Building the
Body Electric***

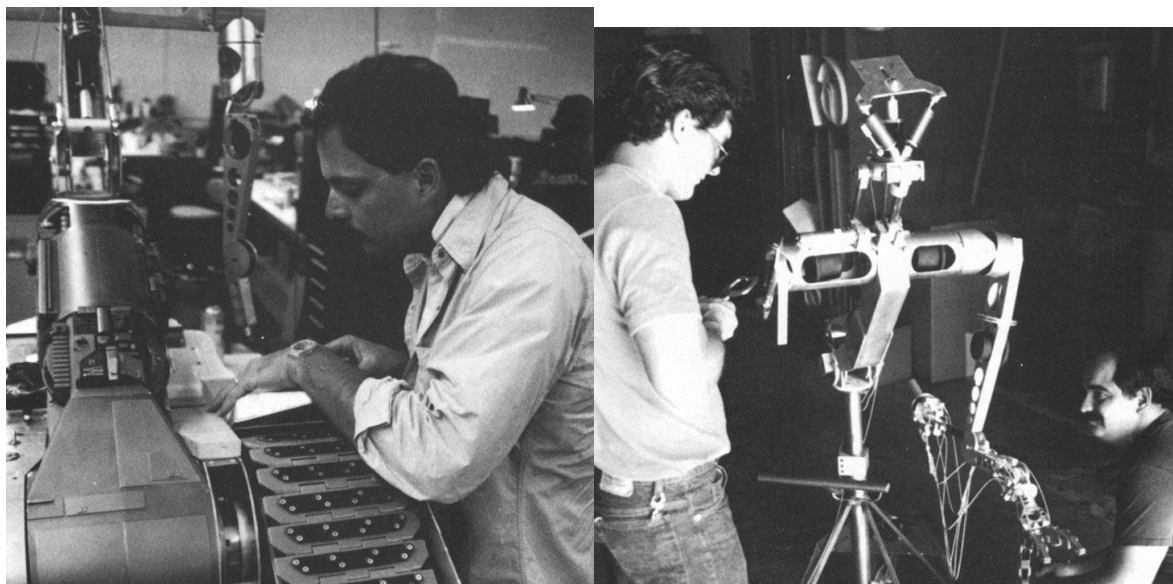




CINEFEX 28





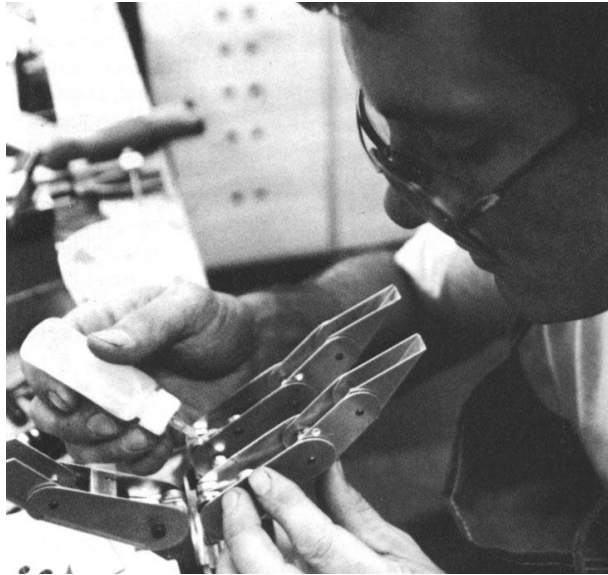


wasn't suitable for Eric's mechanical requirements. In order for the machines to actually move around on their own power, they would have to have pretty hefty batteries on board and there was no place in this design to put those batteries. All of the other bodily parts were going to be very thin and spindly so that the audience would *know* that it was a real machine with nobody hiding inside of it. We had to have *someplace* where Eric could put all the mechanical stuff, so we went with tracks which gave us a good heavy base. It worked dramatically too because tracks enforced the idea that this was a military machine."

Number 5 also required some flexibility in height with the ability to squat down into a 'combat' position and raise up to an eye-to-eye level with his human costars. "To get that scissor action required articulation of the main stub of his body at the bottom," Mead continued. "It could move back towards the rear, making it shorter; then, as it moved forward it would raise up by about a foot. The neck also periscoped up and down. Another thing I did with his body was to give him a dropped shoulder look so that it wasn't exactly symmetrical. His laser was off-center on one side and that added an odd asymmetric accent that made it look almost endearingly clumsy or awkward. It was very important that it *not* just look like an armature for a piece of sculpture that was later going to be covered up with something. It had to look like a highly specialized machine which, because of its function, just *happened* to look like a human being." One of Number 5's nonhuman characteristics was his third arm, called the tool arm. The tool arm had been the writers' invention and, in the script, had been capable of many functions similar to the James Bond gadgetry. Practical considerations made a simplification of the arm a necessity, however, and in the final design it is neatly folded into his backside, rarely seen or used.

As the key to his personality, a great deal of the allotted design time was spent on Number 5's face and head. "Originally, I proposed that the face and head not be totally anthropomorphic," noted Mead. "I wanted it to be more machinelike and have a happenstance resemblance. It's strange how quickly we perceive a face out of three dots. You get 'face' very rapidly when you are playing around with mechanical detail and I wanted to stay away from that. So I kept coming up with these sketches that were very machinelike and logical for what a thing like this would have to do. But as we progressed, John decided he wanted two matching eyes and a mouth — more of a symmetrical face." Most of the robot's 'acting' ability would come from his expressive and flexible eyes and eyeflaps. "His eye flaps acted as eyebrows and they were originally the flash

Several weeks of preproduction were devoted to the all-important Principal Mead — a collaboration with John Badham and Mead mockup of the actual phase. / I Chris Ros vacuum form produce the radio-the robot Robert H. complete on one of controller develop closeups. basic character aluminum lightweight used when



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Several weeks of preproduction were devoted to the all-important detail work. Principal photography was a breeze.
Mead — u

doing detailed work, we used the insert arms. In other scenes, we'd set up the robot with no arms behind a table, for example, and then have a guy operating an insert arm on either side of him. As long as the shot was framed in a certain way, it looked perfectly natural."

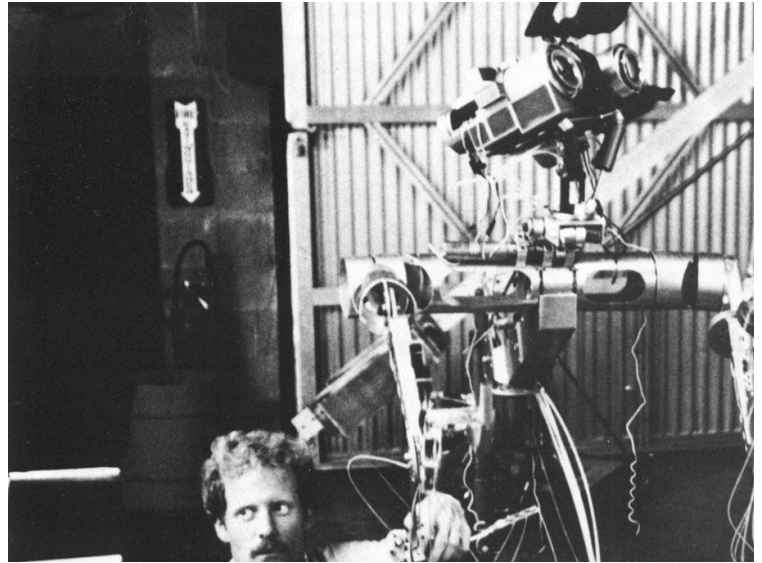
To allow for optimum flexibility during shooting, each of Number 5's parts was made to fit *any* version of the robot — radio controlled, puppet or dummy. "Everything was made so you could take any part of any robot and put it on any other robot. I knew it would be essential when we actually got out there and started shooting. It doesn't matter how well you plan these things; when you get on the set with a creative director like John Badham, things are going to come up and you have to be flexible enough to accommodate him." Because of this flexibility, only five heads were actually needed, each able to attach to any type of robot. "Three of the heads were capable of sixteen separate functions, and we ended up with more than twenty servos just in the heads alone. The eyes could pan and tilt and there was an iris which worked inside the lens. They had eyebrows that were pretty complex, too. They could flap, either together or independently, and the whole assembly tilted back. The eyes also had louvers on the sides that opened and closed." The head also included a voice module — a panel of lights the audience could relate to as the source of Number 5's voice. "We used a wireless remote microphone that Tim Blaney — who was the head operator and the voice of Number 5 — would speak into. As he did, the lights on the voice module would start to dance. It was like a color organ — the louder he talked, the more lights would come on." The remaining two heads were simpler versions, each with their own special function to perform. "One head was intended just for the scene where Stephanie first sees Number 5 in her truck and she thinks it's an alien. That one had huge projector bulbs in its eyes and, though it did have some upper eye flap functions, it didn't have the atmospheric sensors or most of the other eye movements. The fifth head was the 'bug-eye' head. Its eyes were rigged so they could actually pop out. It was a subtle effect and we ended up using it only a couple of times — for the scene where Number 5 sees Stephanie naked and also when he chases the grasshopper."

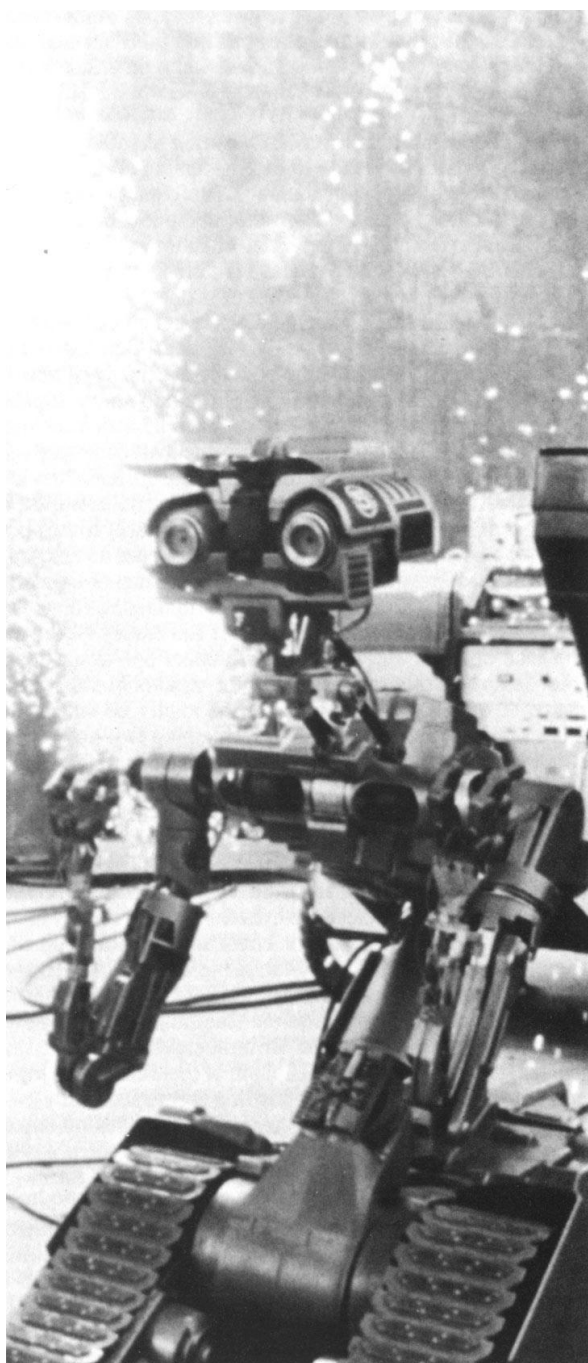
Like all stars, Number 5 required stunt doubles to take over when the action got too rough. "We built eight stunt robots that had little or no articulation. A couple of them had some lower boom-type action so we could position them specifically for a shot, but there were no radio controlled functions on any of them. They were going to take a lot of abuse, so there was no point in putting delicate mechanisms in them." Even the heads

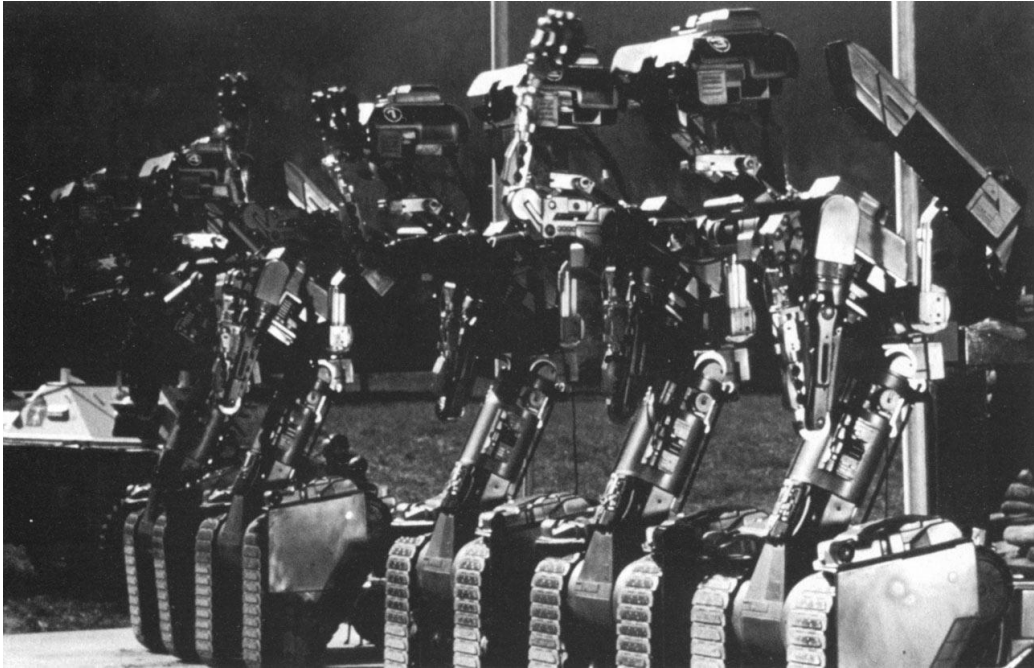


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Inadvertently tossed off a high bridge, Number 5 quickly deploys a parachute and drifts safely to the ground. To accentuate the apparent magnitude of the drop, eight half-scale robots were constructed for the scene. / The foundling Number 5 is taken in by Stephanie Speck (Ally Sheedy) who accommodately feeds his insatiable thirst for 'input' by exposing him to books and late-night television. / Startled by Stephanie's dog, Number 5 tumbles off her porch and into a chicken coop. Referring to a video monitor, puppeteer Rico Topazio practices robot arm movements while the film crew prepares for a two-camera setup. / Head 'roboteer' Tony Urbano discusses a scene with Ally Sheedy and John Badham

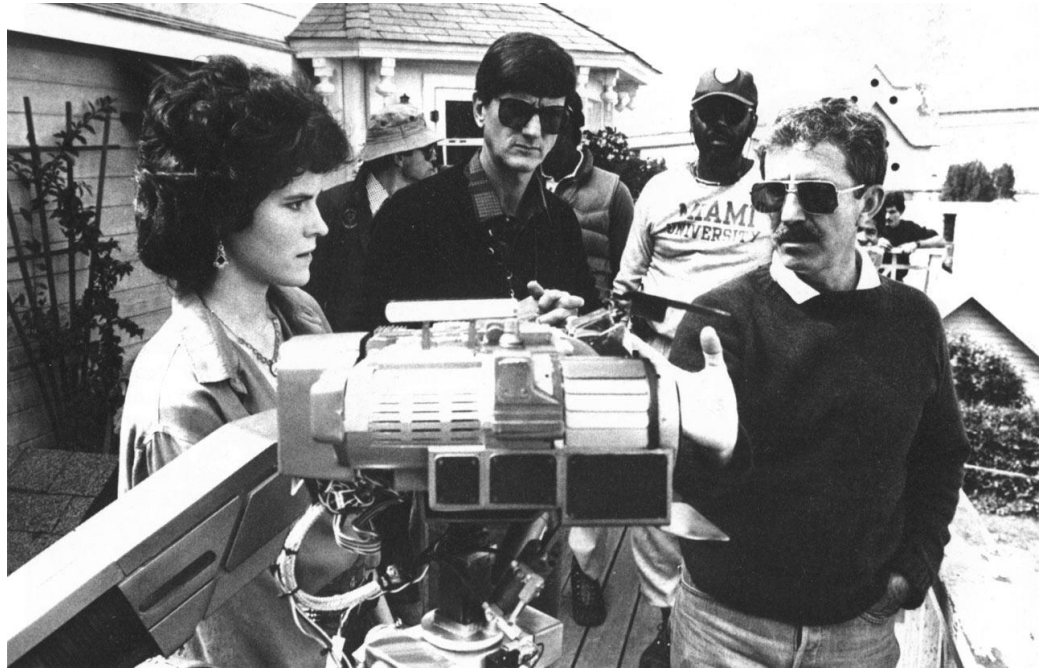
that one to solve the electronics difficulties. After we rebuilt it, it ended up being the best, most reliable robot we had for the duration of the show — he seemed to actually exceed his battery life.”

Badham, his crew and actors were already on location in Oregon awaiting the arrival of their star. Though ninety-five percent completed, the Number 5 action props still required minor adjustments when they were loaded on the forty-eight-foot trailer that would take them to location and serve as Allard's portable shop. At the height of production, Allard had employed forty-seven crew members. That crew was now pared down to only fifteen who would accompany him to Oregon to help operate and maintain the robots.

Though extremely complex and cleverly constructed, the Number 5 action props were still just inert pieces of equipment. To bring those forms to life took not only the talents of Eric Allard and his crew but also the experience of a group of veteran puppeteers headed by Tony Urbano. “John Badham was interested in using us,” Urbano said, “but we agreed that our hiring would depend on a little screen test he wanted us to do. He gave us six weeks to learn how to work the robot and get used to it, and then he wanted me to present a scene from the picture. I picked the scenes where Number 5 and Ally are out on the deck looking at the sunrise and also the scene with the grasshopper. I felt those two scenes had both humor *and* dramatic impact. I knew we could handle the funny part — that's what we do all the time — but I wanted to show that we could also carry the deeper moments of the film. So John came in and directed this little test film; and while that was going on, a slender, white-haired gentleman came in. He was grinning from ear to ear and he kept saying: ‘They're great! That's wonderful!’ Carl Johnson, one of my puppeteers, looked up at me and said, ‘I don't know who that guy is, but I hope he's someone important.’ It turned out to be Larry Turman, and the next day we got a call saying we had the job.”

To meet the challenge of creating the main character of a film primarily through puppeteering, Urbano and his crew began rehearsing with the Number 5 puppets as early as possible. “Even before Eric had them completed,” Badham related, “Tony and his guys would go over to the shop and rehearse with them all afternoon. There was a group of four ‘roboteers’ — which is what I preferred to call them — that regularly operated Number 5, and together with Eric and his people those guys *were* Number 5. They brought him to life. It was quite a responsibility because Number 5 was the star of the movie. Ally Sheedy and Steve Guttenberg were the costars and I told them that when we first started. I told them if they didn't agree with me, just wait until we'd been shooting for a couple of weeks and see who got all the attention. They took that to heart and were really







of us who were operating him would play wave or something. Before long, ever with this thing as if he were a real character, say, 'Okay, Number 5, move over here, other actor. It took about four weeks of things, but eventually we got to a point where we were like one actor, taking direction and

Much to their surprise, Tony Urbano and — Tim Blaney, Carl Johnson and Rico Torres — had the opportunity to make their own creative contribution to create personality and business the way down the line. When he hired us to give this robot all the acting ability to carry the movie. At the time I'd thought going to get in there and suggest something would say no.' But it turned out to be nothing supportive. Most directors we have worked with are usually patient with our kind of work — oriented and they don't understand what we're doing. But John was extremely patient and he pushed this thing to its limit. It wasn't standard; we wanted the character to look *real*. If we had things, he wouldn't have seemed alive; he seemed very cleverly operated. In other words, to come to 'life' was a matter of not doing on basic animated cartoon theory — starting in a pose, finding a great ending for the shot, in-betweening them. We'd decide what to do with certain things — would he be happy? Would he be pensive? And we always tried to build in a reaction, just a second of time for him to respond. It made him more human and we got rid of any surplus movement and just the expressions that really *said* something the audience relate to him."

Shots were divided between those that used more capable robot puppets and those that used control models. For both, however, it required a cooperative effort between Eric Allard, the puppeteer, and his respective crews. "The Type 1 remote-control model required at least four people to operate," explained Allard. "On the more complicated shots as many as six people would operate the base and operated the lower portion; the arms were operated by the puppeteer; Tony did the facial expressions. The arms were consistently at the limit of their range of motion; the servos in them were just at the limit of



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him back to the facility to be disassembled, Number 5 makes a bold escape employing Stephanie's catering truck as his getaway vehicle. "Just getting him into and out of the truck was very involved," noted Gaspar. "To help him enter, we built a platform with a treadmill on it — just like Number 5's tracks. It was buried in the ground and it had a telescoping ram — a hydraulic cylinder — that would raise up as the robot's tracks met the tracks of the platform. By positioning his arms at the top of the doorway, it would look like he was lifting himself up into the truck." Just getting the sometimes errant remote-control robot to hit the proper position on the platform was oftentimes a hit-and-miss affair — with the emphasis on the 'miss.' Luckily, getting Number 5 to exit the vehicle was a little easier. "All we did was make a cable ramp with piano wire and have the robot itself drive down it. A safety line was attached to his back and we slowly let him out under his own power."

As capable as Number 5 was, he still needed considerable assistance in actually driving the truck. Called a 'blind drive,' the technique is commonplace in Chuck Gaspar's line of work. "It's the type of effect we do all the time. We take a boat-steering system and drive from another place within the vehicle. It's done hydraulically and you can be hidden anywhere in the vehicle, off-camera. The driver is usually a stuntman and he has vision outside the vehicle. The only problem with it was that it could get very crowded in there — stuntmen, technicians and puppeteers all in a pretty confined space."

Now a hotly pursued fugitive, Number 5 returns to Stephanie's home for sanctuary. The soft-hearted caterer cannot bring herself to turn him away and the two of them pass the evening dancing. Though the script referred to the dancing in a general way, John Badham knew *precisely* what dance they would perform. "It would have been ridiculous for me to use a dance from *Flashdance* or *Grease* or from an old Fred Astaire movie. I had filmed one of the classic dances of film history in *Saturday Night Fever* and that's what it had to be." To prepare for the sequence, Number 5 and his roboteers attended dance class for two weeks. "We looked at what Travolta did and decided what specifically we wanted Number 5 to mimic. In a way, Number 5 reminded me of Travolta during the rehearsal period. John had had to work like hell to do what he did and he had been scared to death about it. Number 5 worked like hell too, rehearsing with Ally for a long time. Eventually, they got really good at it."

For Eric Allard and Tony Urbano, the dance sequence provided an opportunity to strut their robotic stuff. "I really wanted to go wild with it," Urbano stated. "There were really only two places in the movie where we could get flamboyant with the puppeteering — the Three Stooges routine and the dance. So we exploited the opportunity to the limit. We tried to incorporate not only the bits of the dance that would be funniest when

